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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,676	12/21/2001	Christian J. Wittak	2001-0092-1	5231

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Cymer, Inc.
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EXAMINER

AL NAZER, LEITH A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/036,676

Applicant(s)

WITAK ET AL.

Examiner

Leith A Al-Nazer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 14 and 23 are objected to because of the following informalities:
 - a. Claim 14 recites the term “pulse power power system”. This should be changed to “pulse power system”.
 - b. The word “an” in the first line of claim 23 should be changed to “and”.Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites various systems, including a “heat exchanger system”, a “pulse power system”, and a “laser beam measurement and control system”. However, the claim fails to provide sufficient structural elements to properly conform each of the systems. For example, what elements are included in the “heat exchanger system”?

Claim 3 recites the term “vane structure”. This term is vague and indefinite, and Examiner is unsure of the structure that is being claimed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Das et al '520.

With respect to claims 1, 3-9, 11-21, and 23-46, Das teaches a laser chamber (2) containing a laser gas and having two elongated electrodes; a tangential type fan (column 4, lines 65-67) for producing sufficient gas velocities of the laser gas in the discharge region to clear from the discharge region substantially all discharge produced ions prior to a next pulse; a heat exchanger system (column 1, lines 15-20) capable of removing at least 16 kw of heat energy from the laser gas; a pulse power system (column 1, lines 5-10) configured to provide electrical pulses to the electrodes; and a laser beam measurement and control system (column 6, lines 10-67) capable of measuring pulse energy wavelength and bandwidth of energy pulses.

With respect to claim 2, Das teaches the discharge laser system being a KrF excimer laser system and the laser gas being comprised of krypton, fluorine, and neon.

With respect to claim 10, Das teaches the finned heat exchanger system being water-cooled (column 2, lines 60-65).

With respect to claim 22, Das teaches the laser beam measurement and control system comprising an etalon unit, a photo diode array, a programmable logic device, and optics to focus laser light from the etalon unit on to the photo diode array wherein the programmable logic

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device is programmed to analyze data from the photodiode array to determine locations on the photo diode array of etalon fringes (figure 6; column 6, lines 34-43).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 1-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Scaggs et al '662.

With respect to claims 1, 3-9, and 11-46, Scaggs teaches a laser chamber (1) containing a laser gas and having two elongated electrodes; a tangential type fan (column 5, lines 45-51) for producing sufficient gas velocities of the laser gas in the discharge region to clear from the discharge region substantially all discharge produced ions prior to a next pulse; a heat exchanger system (column 5, lines 36-44) capable of removing at least 16 kw of heat energy from the laser gas; a pulse power system (6; column 2, lines 41-45) configured to provide electrical pulses to the electrodes; and a laser beam measurement and control system (4) capable of measuring pulse energy wavelength and bandwidth of energy pulses.

With respect to claim 2, Scaggs teaches the discharge laser system being a KrF excimer laser system and the laser gas being comprised of krypton, fluorine, and neon.

With respect to claim 10, Scaggs teaches the finned heat exchanger system being water-cooled (column 5, lines 36-44).

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8. Claims 1-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Stamm '254.

With respect to claims 1 and 3-46, Stamm teaches a laser chamber (2) containing a laser gas and having two elongated electrodes (3a and 3b); a tangential type fan (column 21, lines 16-17) for producing sufficient gas velocities of the laser gas in the discharge region to clear from the discharge region substantially all discharge produced ions prior to a next pulse; a heat exchanger system (column 21, lines 16-17) capable of removing at least 16 kw of heat energy from the laser gas; a pulse power system (column 21, lines 18-19) configured to provide electrical pulses to the electrodes; and a laser beam measurement and control system (figure 5) capable of measuring pulse energy wavelength and bandwidth of energy pulses.

With respect to claim 2, Stamm teaches the discharge laser system being a KrF excimer laser system and the laser gas being comprised of krypton, fluorine, and neon.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1 and 4-43 are provisionally rejected under the judicially created doctrine of double patenting over claims 1 and 4-43 of copending Application No. 09/854,097. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: an extreme repetition rate gas discharge laser including a laser chamber, a tangential fan, a heat exchanger, a pulse power system, and a laser beam measurement and control system.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

11. Claims 1 and 10-21 are rejected under the judicially created doctrine of double patenting over claims 1 and 16-27 of U. S. Patent No. 6,477,193 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: an extreme repetition rate gas discharge laser including a laser chamber, a tangential fan, a heat exchanger, a pulse power system, and a laser beam measurement and control system.

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Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 703-305-2717. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3329.

LA
June 24, 2003


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